

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-45. (Canceled)

46. (Currently Amended) A semiconductor device comprising:

a first thin film transistor formed over an insulating surface, the first thin film transistor comprising:

a semiconductor film comprising at least a channel forming region;

a gate insulating film adjacent to the channel forming region ; and

a gate electrode adjacent to the channel forming region with the gate insulating film interposed therebetween;

a source wiring and a drain wiring electrically connected to the first thin film transistor;

~~a first conductive layer electrically connected to one of source and drain regions of the first thin film transistor;~~

a passivation film comprising a silicon nitride formed over the first thin film transistor ~~the first conductive layer;~~

a color filter formed over the passivation film, wherein a first opening is formed in the color filter;

an insulating film formed over the color filter, wherein a second opening is formed in the insulating film, and

a pixel electrode formed over the insulating film and electrically connected to the drain wiring ~~the first conductive layer~~ through the first and second openings,

wherein the passivation film is interposed between the first thin film transistor ~~the first~~
~~conductive layer~~ and the color filter so that the drain wiring ~~the first conductive layer~~ is not in
contact with the color filter, and

wherein the pixel electrode is in contact with a portion of the color filter in the
first opening,

wherein the pixel electrode overlaps with the source wiring and the drain wiring.

47. (Currently Amended) A semiconductor device comprising:

a first thin film transistor formed over an insulating surface, the first thin film transistor
comprising:

a semiconductor film comprising at least a channel forming region;

a gate insulating film adjacent to the channel forming region; and

a gate electrode adjacent to the gate insulating film,

a source wiring and a drain wiring electrically connected to the first thin film transistor;

a gate wiring electrically connected to the gate electrode;

~~a first conductive layer electrically connected to one of source and drain regions of the~~
~~first thin film transistor;~~

a passivation film comprising a silicon nitride formed over the first thin film transistor ~~the~~
~~first conductive layer~~;

a color filter formed over the passivation film, wherein a first opening is formed in the
color filter;

an insulating film formed over the color filter, wherein a second opening is formed in the
insulating film, and

a pixel electrode formed over the insulating film and electrically connected to the drain wiring ~~the first conductive layer~~ through the first and second openings,
wherein the second opening completely overlaps the first opening, and
wherein the pixel electrode is in contact with a portion of the color filter in the first opening,
wherein the pixel electrode overlaps with the source wiring, the drain wiring, and the gate wiring.

48-51. (Canceled)

52. (Currently Amended) A semiconductor device comprising:

a first thin film transistor formed over an insulating surface, the first thin film transistor comprising:

a semiconductor film comprising at least ~~source and drain regions~~ and a channel forming region;

a gate insulating film adjacent to the channel forming region; and

a gate electrode adjacent to the channel forming region with the gate insulating film interposed therebetween;

a source wiring and a drain wiring electrically connected to the first thin film transistor;

a gate wiring electrically connected to the gate electrode;

~~a first conductive layer electrically connected to one of the source and drain regions of the first thin film transistor;~~

a passivation film formed over the first thin film transistor ~~the first conductive layer, the passivation film comprising at least a material selected from the group consisting of silicon nitride, silicon oxide and nitrated silicon oxide;~~

a color filter formed over the passivation film, wherein a first opening is formed in the color filter;

an insulating film formed over the color filter, wherein a second opening is formed in the insulating film, and

a pixel electrode formed over the insulating film and electrically connected to the drain wiring ~~the first conductive layer~~ through the first and second openings,

wherein the passivation film is interposed between the first thin film transistor ~~the first conductive layer~~ and the color filter so that the drain wiring ~~the first conductive layer~~ is not in contact with the color filter, and

wherein the pixel electrode is in contact with a portion of the color filter in the first opening,

wherein the pixel electrode overlaps with the source wiring, ~~and the drain wiring, and the gate wiring.~~

53-55. (Canceled)

56. (Currently Amended) A semiconductor device comprising:

a first thin film transistor formed over an insulating surface, the first thin film transistor comprising:

a semiconductor film comprising:

a channel forming region; and

a source region and a drain region;
 a gate insulating film adjacent to the channel forming region ; and
 a gate electrode adjacent to the gate insulating film;
 a source wiring and a drain wiring electrically connected to the first thin film transistor;
~~a first conductive layer electrically connected to one of the source and drain regions of~~
~~the first thin film transistor;~~
 a passivation film comprising a silicon nitride film formed over the first thin film
transistor ~~the first conductive layer;~~
 a color filter formed over the passivation film, wherein a first opening is formed in the
 color filter;
 an insulating film formed over the color filter, wherein a second opening is formed in the
 insulating film, and
 a pixel electrode formed over the insulating film and electrically connected to the drain
wiring ~~the first conductive layer~~ through the first and second openings,
 wherein the passivation film is interposed between the first thin film transistor ~~the first~~
~~conductive layer~~ and the color filter so that the drain wiring ~~the first conductive layer~~ is not in
 contact with the color filter, and
 wherein the pixel electrode is in contact with a portion of the color filter in the
 first opening,
 wherein the pixel electrode overlaps with the source wiring and the drain wiring.

57. (Canceled)

58. (Currently Amended) A semiconductor device comprising:

a first thin film transistor formed over an insulating surface, the first thin film transistor comprising:

a semiconductor film comprising:

a channel forming region; and

a source region and a drain region;

a gate insulating film adjacent to the channel forming region; and

a gate electrode adjacent to the channel forming region with the gate insulating film interposed therebetween;

a source wiring and a drain wiring electrically connected to the first thin film transistor;

~~a first conductive layer electrically connected to one of the source and drain regions of the first thin film transistor;~~

a passivation film comprising a silicon nitride film formed over the first thin film transistor ~~the first conductive layer~~;

a color filter formed over the passivation film, wherein a first opening is formed in the color filter;

an insulating film formed over the color filter, wherein a second opening is formed in the insulating film, and

a pixel electrode formed over the insulating film and electrically connected to the drain wiring ~~the first conductive layer~~ through the first and second openings,

wherein the second opening completely overlaps the first opening, and

wherein the pixel electrode is in contact with a portion of the color filter in the first opening,

wherein the pixel electrode overlaps with the source wiring and the drain wiring.

59. (Currently Amended) A semiconductor device comprising:

- a first thin film transistor comprising:
 - a semiconductor film comprising:
 - a channel forming region; and
 - a source region and a drain region;
 - a gate insulating film adjacent to the channel forming region ; and
 - a gate electrode adjacent to the channel forming region with the gate insulating film interposed therebetween;
 - a source wiring and a drain wiring electrically connected to the first thin film transistor;
 - ~~a first conductive layer electrically connected to one of the source and drain regions of the first thin film transistor;~~
 - a passivation film formed over the first thin film transistor ~~the first conductive layer~~, the passivation film comprising at least a material selected from the group consisting of silicon nitride, silicon oxide and nitrated silicon oxide;
 - a color filter formed over the passivation film, wherein a first opening is formed in the color filter;
 - an insulating film formed over the color filter, wherein a second opening is formed in the insulating film, and
 - a pixel electrode formed over the insulating film and electrically connected to the drain wiring ~~the first conductive layer~~ through the first and second openings,
 - wherein the passivation film is interposed between the first thin film transistor ~~the first conductive layer~~ and the color filter so that the drain wiring ~~the first conductive layer~~ is not in contact with the color filter, and
 - wherein the pixel electrode is in contact with a portion of the color filter in the first opening,

wherein the pixel electrode overlaps with the source wiring and the drain wiring.

60. (Canceled)

61. (Currently Amended) A semiconductor device comprising:

a first thin film transistor comprising:

a semiconductor film comprising a channel forming region, a source region, and a drain region, the semiconductor film comprising silicon;

a gate insulating film adjacent to the channel forming region; and

a gate electrode adjacent to the channel forming region with the gate insulating film interposed therebetween;

a source wiring and a drain wiring electrically connected to the first thin film transistor;

~~a first conductive layer electrically connected to one of the source and drain regions of the first thin film transistor;~~

a passivation film formed over the first thin film transistor ~~the first conductive layer~~, the passivation film comprising at least a material selected from the group consisting of silicon nitride, silicon oxide and nitrated silicon oxide;

a color filter formed over the passivation film, wherein a first opening is formed in the color filter;

an insulating film formed over the color filter, wherein a second opening is formed in the insulating film, and

a pixel electrode formed over the insulating film and electrically connected to the drain wiring ~~the first conductive layer~~ through the first and second openings,

wherein the second opening completely overlaps the first opening, and

wherein the pixel electrode is in contact with a portion of the color filter in the first opening,

wherein the pixel electrode overlaps with the source wiring and the drain wiring.

62. (Previously Presented) A device according to claim 56, wherein the semiconductor film comprises crystalline silicon.

63. (Canceled)

64. (Previously Presented) A device according to claim 58, wherein the semiconductor film comprises crystalline silicon.

65. (Previously Presented) A device according to claim 59, wherein the semiconductor film comprises crystalline silicon.

66. (Canceled)

67. (Previously Presented) A device according to claim 61, wherein the semiconductor film comprises crystalline silicon.

68. (Previously Presented) A device according to claim 46, wherein the semiconductor device further comprising:

an organic resin film over the color filter;

an electrode over the organic resin film; and

an oxide film of the electrode in direct contact with at least a portion of a surface of the electrode,

wherein the pixel electrode is in direct contact with at least a portion of the oxide film,

and

wherein a storage capacitor comprises the electrode and the pixel electrode with the oxide film interposed therebetween.

69. (Canceled)

70. (Previously Presented) A device according to claim 52, wherein the semiconductor device further comprising:

an organic resin film over the color filter;

an electrode over the organic resin film; and

an oxide film of the electrode in direct contact with at least a portion of a surface of the electrode,

wherein the pixel electrode is in direct contact with at least a portion of the oxide film,

and

wherein a storage capacitor comprises the electrode and the pixel electrode with the oxide film interposed therebetween.

71. (Previously Presented) A device according to claim 46, wherein the semiconductor film further comprises LDD regions between the channel forming region and the source and drain regions.

72. (Canceled)

73. (Previously Presented) A device according to claim 52, wherein the semiconductor film further comprises LDD regions between the channel forming region and the source and drain regions.

74. (Previously Presented) A device according to claim 56, wherein the semiconductor film further comprises LDD regions between the channel forming region and the source and drain regions.

75. (Canceled)

76. (Previously Presented) A device according to claim 58, wherein the semiconductor film further comprises LDD regions between the channel forming region and the source and drain regions.

77. (Currently Amended) A device according to claim 46, further comprising a driver circuit comprising a second thin film transistor,

wherein the first thin film transistor is included in a pixel matrix circuit, and

wherein the pixel matrix circuit and the driver circuit are formed over ~~[[an]]~~ the insulating surface.

78. (Currently Amended) A device according to claim 47, further comprising a driver circuit comprising a second thin film transistor,

wherein the first thin film transistor is included in a pixel matrix circuit, and

wherein the pixel matrix circuit and the driver circuit are formed over ~~[[an]]~~ the insulating surface.

79-80. (Canceled)

81. (Currently Amended) A device according to claim 52, further comprising a driver circuit comprising a second thin film transistor,

wherein the first thin film transistor is included in a pixel matrix circuit, and

wherein the pixel matrix circuit and the driver circuit are formed over ~~[[an]]~~ the insulating surface.

82. (Canceled)

83. (Currently Amended) A device according to claim 56, further comprising a driver circuit comprising a second thin film transistor,

wherein the first thin film transistor is included in a pixel matrix circuit, and

wherein the pixel matrix circuit and the driver circuit are formed over ~~[[an]]~~ the insulating surface.

84. (Canceled)

85. (Currently Amended) A device according to claim 58, further comprising a driver circuit comprising a second thin film transistor,

wherein the first thin film transistor is included in a pixel matrix circuit, and

wherein the pixel matrix circuit and the driver circuit are formed over ~~[[an]]~~ the insulating surface.

86. (Previously Presented) A device according to claim 59, further comprising a driver circuit comprising a second thin film transistor,

wherein the first thin film transistor is included in a pixel matrix circuit, and

wherein the pixel matrix circuit and the driver circuit are formed over an insulating surface.

87. (Canceled)

88. (Previously Presented) A device according to claim 61, further comprising a driver circuit comprising a second thin film transistor,

wherein the first thin film transistor is included in a pixel matrix circuit, and

wherein the pixel matrix circuit and the driver circuit are formed over an insulating surface.

89. (Previously Presented) A device according to claim 46, wherein the semiconductor device is selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a player that uses a recording medium, a camera, a projector, a portable telephone, a portable book and a display device.

90. (Previously Presented) A device according to claim 47, wherein the semiconductor device is selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a player that uses a recording medium, a camera, a projector, a portable telephone, a portable book and a display device.

91. (Canceled)

92. (Previously Presented) A device according to claim 52, wherein the semiconductor device is selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a player that uses a recording medium, a camera, a projector, a portable telephone, a portable book and a display device.

93. (Previously Presented) A device according to claim 56, wherein the semiconductor device is selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a player that uses a recording medium, a camera, a projector, a portable telephone, a portable book and a display device.

94. (Canceled)

95. (Previously Presented) A device according to claim 58, wherein the semiconductor device is selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a player that uses a recording medium, a camera, a projector, a portable telephone, a portable book and a display device.

96. (Previously Presented) A device according to claim 59, wherein the semiconductor device is selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a player that uses a recording medium, a camera, a projector, a portable telephone, a portable book and a display device.

97. (Canceled)

98. (Previously Presented) A device according to claim 61, wherein the semiconductor device is selected from the group consisting of a personal computer, a video camera, a mobile computer, a goggle type display, a player that uses a recording medium, a camera, a projector, a portable telephone, a portable book and a display device.

99. (Previously Presented) A device according to claim 46 wherein said color filter has a flat upper surface.

100. (Previously Presented) A device according to claim 47 wherein said color filter has a flat upper surface.

101. (Canceled)

102. (Previously Presented) A device according to claim 52 wherein said color filter has a flat upper surface.

103. (Previously Presented) A device according to claim 56 wherein said color filter has a flat upper surface.

104. (Canceled)

105. (Previously Presented) A device according to claim 58 wherein said color filter has a flat upper surface.

106. (Previously Presented) A device according to claim 59 wherein said color filter has a flat upper surface.

107. (Canceled)

108. (Previously Presented) A device according to claim 61 wherein said color filter has a flat upper surface.

109-118 (Canceled)

119. (Previously Presented) A device according to claim 46, further comprising one or more gate electrodes in addition to the gate electrode.

120. (Previously Presented) A device according to claim 47, further comprising one or more gate electrodes in addition to the gate electrode.

121. (Canceled)

122. (Previously Presented) A device according to claim 52, further comprising one or more gate electrodes in addition to the gate electrode.

123. (Previously Presented) A device according to claim 56, further comprising one or more gate electrodes in addition to the gate electrode.

124. (Canceled)

125. (Previously Presented) A device according to claim 58, further comprising one or more gate electrodes in addition to the gate electrode.

126. (Previously Presented) A device according to claim 59, further comprising one or more gate electrodes in addition to the gate electrode.

127. (Canceled)

128. (Previously Presented) A device according to claim 61, further comprising one or more gate electrodes in addition to the gate electrode.

129-138. (Canceled)

139-145. (Canceled)

146. (Previously Presented) A device according to claim 46, wherein the semiconductor device is incorporated in a display over diagonal 30 inch.

147. (Previously Presented) A device according to claim 47, wherein the semiconductor device is incorporated in a display over diagonal 30 inch.

148. (Previously Presented) A device according to claim 52, wherein the semiconductor device is incorporated in a display over diagonal 30 inch.

149. (Previously Presented) A device according to claim 56, wherein the semiconductor device is incorporated in a display over diagonal 30 inch.

150. (Previously Presented) A device according to claim 58, wherein the semiconductor device is incorporated in a display over diagonal 30 inch.

151. (Previously Presented) A device according to claim 59, wherein the semiconductor device is incorporated in a display over diagonal 30 inch.

152. (Previously Presented) A device according to claim 61, wherein the semiconductor device is incorporated in a display over diagonal 30 inch.

153. (Previously Presented) A device according to claim 46, wherein the color filter includes a flattening function.

154. (Previously Presented) A device according to claim 47, wherein the color filter includes a flattening function.

155. (Previously Presented) A device according to claim 52, wherein the color filter includes a flattening function.

156. (Previously Presented) A device according to claim 56, wherein the color filter includes a flattening function.

157. (Previously Presented) A device according to claim 58, wherein the color filter includes a flattening function.

158. (Previously Presented) A device according to claim 59, wherein the color filter includes a flattening function.

159. (Previously Presented) A device according to claim 61, wherein the color filter includes a flattening function.

160. (Previously Presented) A device according to claim 46,
wherein the color filter is colored with three colors R, G, and B,
wherein a R, G, B color matrix includes a stripe shape.

161. (Previously Presented) A device according to claim 47,
wherein the color filter is colored with three colors R, G, and B,
wherein a R, G, B color matrix includes a stripe shape.

162. (Previously Presented) A device according to claim 52,
wherein the color filter is colored with three colors R, G, and B,

wherein a R, G, B color matrix includes a stripe shape.

163. (Previously Presented) A device according to claim 56,
wherein the color filter is colored with three colors R, G, and B,
wherein a R, G, B color matrix includes a stripe shape.

164. (Previously Presented) A device according to claim 58,
wherein the color filter is colored with three colors R, G, and B,
wherein a R, G, B color matrix includes a stripe shape.

165. (Previously Presented) A device according to claim 59,
wherein the color filter is colored with three colors R, G, and B,
wherein a R, G, B color matrix includes a stripe shape.

166. (Previously Presented) A device according to claim 61,
wherein the color filter is colored with three colors R, G, and B,
wherein a R, G, B color matrix includes a stripe shape.